



FEMA

Earthquake Loss Estimation Study for the New York City Area

Manhattan, NY - A preliminary forecast of the type of losses that the New York City area could suffer after an earthquake is the subject of this study funded by FEMA Region II and coordinated by the Multi-Disciplinary Center for Earthquake Engineering Research. The initial stages of this study involved fact-finding and assessment, with the development of preliminary soil maps and building inventories.

This study describes the scale and extent of damage and disruption that may result from potential earthquakes in Manhattan. In assessing the risks involved, this research has made a significant contribution toward improving our understanding of seismic hazards in Manhattan by forecasting potential losses so that strategies may be formed to reduce their impacts.

The primary objective of this study is to develop and implement a comprehensive risk and loss characterization for Manhattan in the event of an earthquake. This resulted in a complete building inventory of every structure in Manhattan was assembled from a variety of sources. Combined with a detailed geotechnical soil characterization of Manhattan, this building inventory has been used to model scenario earthquakes in HAZUS.

When viewed in context with additional information about regional demographics and seismic hazards, the model serves as a tool to identify the areas, structures and systems with highest risk and to quantify and ultimately reduce those risks.

Deterministic and probabilistic earthquake scenarios were modeled and simulated in Manhattan, which provided intensities of ground shaking, dollar losses associated with capital (the building inventory) and subsequent income losses.

This study is unique, because it is currently one of the most detailed and site-specific applications of HAZUS or any other earthquake loss estimation.



Multiple Counties,
New York



Quick Facts

Sector:

Public

Cost:

Amount Not Available

Primary Activity/Project:

HAZUS-MH

Primary Funding:

**Other FEMA funds/ US Department of
Homeland Security**